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ABSTRACT

The Preschool Rating Scale (PRS) consists of twenty Guttman scaled items which assess a preschool child's personal-social development. Experience gained over the past two years indicate that it can be used: (1) for screening; (2) for program evaluation; (3) as a guide to the teachers in identifying specific areas of development which may need remediation; (4) to alert teachers to areas of development which they should be aware of; and (5) to assess day care worker's effectiveness. Norms are available for six groups from 36 to 71 months of age (N = 1,040 children). The norms were developed from urban and suburban advantaged and disadvantaged males and females. Based upon the ratings of 125 children by two groups of raters (pairs of raters rated 15-20 children each independently), the average of interrater correlation coefficient estimates was .74. The usual types of judgmental validity (constructor, user and face) have been obtained. More sophisticated statistical procedures have been used to indicate the predictive and inferential validity. The predictive validity was determined by a discriminant analysis. Inferential validity is indicated by noting that the mean score increases as older age groups are examined. These analyses indicate that the PRS can classify children as typical or non-typical with a high degree of accuracy. (Author)

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THE PRESCHOOL RATING SCALE

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INTRODUCTION

The Preschool Rating Scale (PRS) was developed out of a felt need for more sensitive instruments which child care-giver/teachers could use in the detection of preschool children with incipient or manifest problems and which reflect progress in development over time. The PRS is an attempt to develop a descriptive rating scale based on the teacher's judgement of a child's personal-social behavior in a classroom setting. Further, since many preschool child care-giver/teachers have received limited or no formal training in child development, the PRS provides the child care-giver/teachers with guidelines for understanding a child's functioning in more specific ways.

GOALS

The major goals of this paper are to show that the Preschool Rating Scale: 1) may yield useful information about personal-social development in a preschool population; 2) can be used to screen preschoolers for "flagging" of children who may have problems; and 3) can be used to document longitudinal developmental gains.

METHODS

There are basically six conceptual approaches available to assess a preschool child's personal-social development: 1) Projective techniques 2) Unobstrusive measures; 3) Observational procedures; 4) Rating scales; 5) Self-report measures; and 6) Situational measures (Walker, 1973). Even casual analysis will indicate that these are not specific abstract areas. Nevertheless, for the purposes of this paper they will be so considered. Only the last four of these have been used and published to any extent. It is somewhat surprising that only twenty-eight devices specifically designed to measure social skills or competency have been developed, used, and published, at least according to Walker's review Socioemotional Measures for Preschool and Kindergarten Children. There are problems with any psychometric measurement approach adopted. Observational procedures entail problems of observer influence (both positive and negative), reliability, instrumental aides, definition and choice of categories, time and cost. Rating scales usually suffer problems involving subjective judgement bias on the part of the raters and ambiguous categories.

Self-report measures generally have great difficulty obtaining unambiguous honest answers and placing the answer given within the context of the individual's general behavior pattern. Situational measures such as sociometric tests, interviews and contrived situational tests usually have problems involving their reliability and validity. All of these, except for some rating scales require that the subject be available directly or observationally. With the exception of observational measures, all procedures generally have poor reliability and validity. Finally, less than one-half of the devices in any one category have norms available.

The numerical rating scale approach with behaviorally specific item choices representing a Guttman scale has been adopted because: 1) It does not require the presence of the child being rated; 2) Guttman scaling is in line with a developmental approach; 3) Behaviorally specific item choices which avoid psychological jargon can reduce subjective judgement bias; 4) Child care-giver/teachers can be presented with conceptual structures at the same time they provide useful information; and 5) Rating scales are easy to use and inexpensive. Further, since the child care-giver/teachers are the only persons besides the parent (usually the mother) who interacts with the child three to eight hours per day for five days a week he/she has useful insights. Previous research findings support this approach in that data suggest that child care-giver/teachers can identify children with problems accurately even when unable to articulate their concern in organized style. Therefore, if the subjective judgement bias can be controlled, the care-giver/teachers can place the child's behavior in appropriate context and provide a balanced judgement of personal-social behavior development.

The Preschool Rating Scale (Appendix A) consists of twenty items usually involving four choices ranging from very low levels to high levels of competence. It is divided into five subtests: 1) Coordination-two items; 2) Verbal Expression-three items; 3) Auditory Understanding-six items; 4) Orientation-five items; and 5) Social Relations-four items. Each subscore is obtained by adding the items choice weights (one equals low level and four or five equals high level) chosen by the rater. A total score is obtained by adding the five subtest scores.

DATA COLLECTION

Four classification type variable have been defined for each subject: 1) SES-an estimate of the general classroom socioeconomic level based upon the researcher's observations and discussions with the child care-giver/teachers with two levels (low and high). 2) Sex-as reported by the child care giver/teacher with two levels (male or female) 3) Age Group-determined by the subject's age in months as reported by the child care-giver/teacher with six levels [1(36-41), 2(42-47), 3(48-53), 4(54-59), 5 (60-65) and 6(66-71)]. 4) Group Type-determined by reports of child care-giver/teachers for level 1: typical and level 2: non-typical: teacher and by reports of psychologists for level 3: non-typical: psychologist.

Ratings were obtained on 1166 children by their child care-giver/teachers. Of these 1166 children, 118 were from urban disadvantaged low SES areas without problems, 922 were from suburban high SES areas without problems, 66 were children with problems as defined by the child care-giver/teacher, and 60 were known to have some sort of problem, i.e., diagnosis by a team consisting of a teacher, psychologist, psychiatrist, and social worker. Interrater reliability data was obtained on 125 children. Finally, longitudinal data was collected on 18 of the 60 children known to have problems.

RESULTS

Based upon one inch of computer printouts of ANOVA runs using the classification codes SES and Sex done by the six Age Groups, it seems clear that there are generally no significant differences at the .05 level between low SES, high SES, male and female groups. The only exceptions to the above generalization are: 1) where there is no data available such as low SES females in the 60-65 month Age Group for the typical Group Type; 2) for differences between low and high SES groups in the 48-53 mongh Age Group for the non-typical: teacher Group Type where low SES subtest scores are higher that high SES subtest scores; 3) for differences between males and females in the 60-65 month Age Group for the typical Group Type where females score higher than males for most subtests; and 4) for differences between males and females in the 66-71 month Age Group for the typical Group Type where females score higher than males for most subtests. Therefore, data from low SES and

and high SES levels for males and females was combined and is presented in Table 1 for each subtest of the PRS by Group Type and Age Group.

TABLE 1 ABOUT HERE

The data in the typical Group Type section of Table 1 indicates that for all but one of the subtests, as the age of the subjects increases so does the mean score. Further, for each subtest the spread of scores (the standard deviation) is reasonably homogeneous across age groups. This data lends support to the notion that the PRS may be a developmental scale for the typical Group Type. For the second and third Group Type levels the data are not so clear cut, although there is somewhat of an increase in mean scores for the older Age Group levels albeit at lower overall mean score levels. It should be kept in mind at all times that the results in Table 1 represents cross-sectional data.

Based on the ratings of 125 children by two groups of raters (pairs of raters rated about 15-20 children each independently), the approximate average of interrater correlation coefficient was .74. Further, work is being done to improve the reliability of the scale. Some of the item choices are being reworded and more detailed and specific rating procedure directions are being used.

To determine the screening effectiveness of the PRS a series of discriminant functions were developed using the classification variable Group Type, the items as the predictor variables, and equal and proportional prior probabilities for the three groups. Since all tests of the homogeniety of the within covariance matrices were not significant at the .05 level the pooled covariance matrix was used in each case. One discriminant function was developed for each of the six levels of Age Groups for each of the two sets of prior probabilities. A summary of the results is presented in Table 2.

TABLE 2 ABOUT HERE

The results in Table 2 indicate that regardless of the prior probability chosen the prediction of group inclusion is good for Group Type 3 (non-typical: psychologist). Equal prior probabilities produce more accurate prediction for Group Type 2 (non-typical: teacher). Proportional prior probabilities produce more accurate prediction for Group Type 1 (typical). Regardless of what previous research literature is used, the prior probabilities probably fall somewhere between these extremes. These results provide support for the use of the PRS as a screening instrument.

Finally, the PRS was developed and used for program evaluation at the Center for Preschool Services in the Franklin Institute Research Laboratories to evaluate the effectiveness of a pilot program designed to enhance the socioemotional as well as, cognitive, development of urban children, 3-6 years old, with problems. The PRS was used during the Fall of 1973 and again in June of 1974. Analysis of the results of these two ratings are presented in Table 3.

TABLE 3 ABOUT HERE

Considering that: the average time between ratings was around seven to eight months; the children were spread across the six age groups; they started at lower than normal rating levels; and that they were subjected to a program designed to enhance development, the gains shown in Table 3 are larger than one would expect from the cross-sectional scores in Table 1. his was interpreted to indicate that the program was effective.

For the purposes of this paper this study shows that the PRS can be effectively used to document longitudinal developmental gains.

CONCLUSIONS

The PRS would seem to be an effective screening device for the detection of any young children, 3-6 years old, who may be having personal-social development problems. Also it is an effective means of assessing the longitudinal development of children. Further, from discussions with child care-givers/teachers, the scale provides a structure which allows the rater to think about the child's development in more specific and meaningful ways. An unexpected spin-off is that the structure provided by the PRS is very useful when the child care-giver/teacher must talk with the parents of children who may have problems.

IMPORTANCE

The PRS can provide another dimension along which useful information can be obtained concerning the overall development of the child. An analogy with an engineering blueprint seems appropriate. In both cases, if only one view of the object (child) is presented, hidden features may be misinterpreted or even missed. In the same way, if only an I.Q. test is administered to the child, or only one person's view of the child is used, salient features of the child's development may be missed. Hence, what is needed is a series of snap shots of the child from different angles. Then, by combining the snap shots a complete picture of the child's overall development may be constructed providing better means of detection, planning and remediation for the child with problems.

Further, the PRS may provide useful child care-giver/teacher accountability information. It can be argued that a child care-giver/teacher should either facilitate the development of the child or if the child is not developing appropriately she should have the wherewithal to refer the child for diagnostic testing. In the first case, the PRS can provide via repeated use, some of the necessary information to show that a child has developed appropriately. In the second case, the PRS can provide the necessary screening which can suggest the need for further testing and diagnosis. Thus, the PRS may not only help assess the child's development, but may help document that the child care-giver/teacher is doing her job.

TABLE 1.

PRESCHOOL RATING SCALE

MEANS, STANDARD DEVIAT ONS AND SAMPLE

SIZES BY GROUP TYPE AND AGE GROUP

GROUP TYPE	AGE GROUP	COORDINATION		VERBAL EXPRESSION		AUDITORY UNDERSTANDING		ORIENTATION		SOCIAL RELATIONS		TOTAL		SAMPLE SIZE
		X	SD	X	SD	X	SD	X	SD	X	SD	X	SD	N
1 TYPICAL	1(36-41)	5.13	1.28	9.57	1.93	15.16	3.00	14.05	2.51	12.46	2.41	56.38	9.09	104
	2(40-47)	5.67	1.17	10.43	1.80	17.00	3.29	14.93	2.82	14.07	2.50	62.10	9.53	207
	3(48-53)	6.07	1.23	10.86	1.92	17.96	3.44	15.83	2.64	14.67	2.04	65.38	9.10	244
	4(54-59)	6.41	1.24	11.17	1.69	18.92	3.32	16.47	2.83	15.23	1.96	68.20	9.20	237
	5(60-65)	6.76	1.17	11.57	1.70	19.68	2.99	17.11	2.36	15.04	1.90	70.16	8.02	180
	6(66-71)	7.00	0.00	12.03	1.39	20.53	3.04	17.72	2.01	15.19	2.10	72.47	7.13	68
														1,040
2 NON-TYPICAL: TEACHERS	1(36-41)	5.50	1.22	8.83	1.83	13.83	3.49	13.17	3.13	10.67	2.50	52.00	10.02	6
	2(40-47)	4.69	1.25	8.46	2.47	13.46	3.15	12.62	2.69	11.62	2.50	50.85	10.45	13
	3(48-53)	5.55	1.44	10.41	2.46	17.55	3.84	14.59	3.81	12.86	2.78	60.95	11.59	22
	4(54-59)	5.67	1.56	8.67	3.94	16.08	4.72	14.00	3.98	11.33	3.37	55.75	15.27	12
	5(60-65)	6.25	1.39	10.38	2.97	15.50	4.21	14.63	3.74	12.25	3.92	59.00	12.98	8
	6(66-71)	5.80	0.45	8.60	2.70	15.60	2.30	12.80	2.28	11.40	1.67	54.20	5.12	5
														66
3 NON-TYPICAL: PSYCHOLOGIST	1(36-41)	4.25	1.71	5.50	2.38	12.00	3.67	10.50	1.91	9.00	0.82	41.25	7.32	4
	2(40-47)	4.13	2.23	5.88	3.60	11.13	3.44	9.88	2.70	9.50	2.33	40.50	12.48	8
	3(48-53)	5.21	0.89	8.36	2.47	14.21	3.26	11.07	2.92	10.14	2.66	49.00	9.36	14
	4(54-59)	4.69	2.02	8.25	3.11	14.38	3.61	12.00	3.03	9.50	1.83	48.81	11.65	16
	5(60-65)	4.64	2.58	7.27	4.17	12.09	6.35	10.55	5.82	9.09	4.78	43.63	23.05	11
	6(66-71)	5.14	3.02	8.29	5.02	15.29	7.23	12.86	6.39	10.00	4.80	51.57	25.11	7
														60

Missing item scores have been replaced by the mean score for the rest of the items in a subtest.

TABLE 2.

PRESCHOOL RATING SCALE

DISCRIMINANT ANALYSIS SUMMARY OF CLASSIFICATION

PERFORMANCE USING GENERALIZED SQUARED DISTANCE WHERE

$$D_j(x) = (x - \bar{x}_j)' \, cov^{-1} \, (x - \bar{x}_j)$$

By Age Group Levels

Using Equal and Proportional Priors

Equal (Proportional)

Age Group 1(36-41)

Number of Observations Classified into Group Type

		1	2	3
From	1	85(92)	4(0)	3(0)
Group	2	1 (1)	2(2)	0(0)
Type	3	0 (1)	0(0)	4(3)

Age Group 2(42-47)

Number of Observations Classified into Group Type

		1	2	3
From	1	156(186)	27(1)	4(0)
Group	2	3 (8)	8(3)	1(1)
Type	3	2 (2)	0(0)	5(5)

Age Group 3(48-53)

Number of Observations Classified into Group Type

		1	2	3
From	1	186(230)	31(1)	16(2)
Group	2	4 (10)	13(7)	1(1)
Type	3	0 (4)	1(0)	10(7)

Age Group 4(54-59)

Number of Observations Classified into Group Type

		1	2	3
From	1	201(219)	14(2)	7 (1)
Group	2	3 (5)	8(6)	0 (0)
Type	3	1 (3)	1(0)	11(10)

Age Group 5(60-65)

Number of Observations Classified into Group Type

		1	2	3
From	1	145(165)	11(0)	13(4)
Group	2	1 (3)	5(3)	1(1)
Type	3	0 (2)	1(0)	6(5)

Age Group 6(66-71)

Number of Observations Classified into Group Type

		1	2	3
From	1	63(65)	2(0)	0(0)
Group	2	0 (1)	3(2)	0(0)
Type	3	0 (0)	0(0)	6(6)

Discrepancies in sample size in Tables 1 and 2 are due to deletion of subjects from the discriminant analysis when item scores are missing.

TABLE 3.

CENTER FOR PRESCHOOL SERVICES

FRANKLIN INSTITUTE RESEARCH LABORATORIES

EVALUATION RESULTS 1973-4

PRESCHOOL RAT NG SCALE

PRE (FALL, 73) - POST (JUNE, 1974)

SUBTEST	t	X_{PRE}	SD_{PRE}	X_{POST}	SD_{POST}	$R_{1,2}$	N
Coordination	.17	5.39	.29	5.44	1.58	.63	18
Verbal Expression	3.37	8.11	2.65	9.67	2.47	.72	18
Auditory Understanding	2.32	14.61	2.52	16.50	2.83	.17	18
Orientation	4.50	11.55	2.48	14.44	2.09	.31	18
Social Relations	2.44	10.50	2.23	11.89	1.68	.26	18
TOTAL	3.54	50.17	8.60	57.94	8.52	.43	18

CENTER FOR PRESCHOOL SERVICES IN SPECIAL EDUCATION

PRESCHOOL RATING SCALE*

SUBJECT: _____

BIRTH DATE: _____

SEX: _____

RACE: _____

EVALUATION BY: _____

DATE: _____

CODE NUMBER: _____

* Based upon work by H. Myklebust and by W. Marlowe.

COORDINATION

DIRECTIONS: Choose one (1) response for each item.

GROSS MOTOR

1. ( ) Awkward in walking, running, climbing stairs; frequently falls or bumps into things.
2. ( ) Difficulty in hopping, jumping, balancing on one foot.
3. ( ) Learns new motor tasks without undue difficulty.
4. ( ) Rapidly masters motor skills requiring particularly good balance and coordination.

FINE MOTOR

1. ( ) Unable to manipulate scissors or do simple puzzles.
2. ( ) Awkward in using scissors; holding a crayon.
3. ( ) Learns to use new tools without difficulty, relatively skillful in pasting; stringing beads.
4. ( ) Easily employs new tools (use of hammer; pouring liquid into container); draws a recognizable 3-part human figure.

VERBAL EXPRESSION

VOCABULARY

1. ( ) Uses mostly gestures, with some sounds.
2. ( ) Uses few words, gestures primarily.
3. ( ) Uses mostly nouns (or no nouns--only function words), scant vocabulary.
4. ( ) Knows the names of most object, uses many descriptive words.
5. ( ) Uses appropriate vocabulary in conveying ideas.

GRAMMAR

1. ( ) Uses primarily single words.
2. ( ) Uses incomplete sentences.
3. ( ) Uses simple sentences, has acquired the grammar used at home.
4. ( ) Uses complex sentences with grammar of home environment correctly.

SHARING IDEAS AND EXPERIENCES

1. ( ) Unable to tell simple facts or explain an experience that is unknown to the listener.
2. ( ) Ideas jumbled and incomplete, unable to describe in logical sequence.
3. ( ) Usually tells facts or a story without confusing sequence or meaning.
4. ( ) Always describes ideas and experiences in an understandable and well organized fashion.

AUDITORY UNDERSTANDING

VOCABULARY

1. ( ) Seems to understand few if any words.
2. ( ) Understand only a few single words, poor understanding of prepositions.
3. ( ) Understands vocabulary adequately, knows prepositions and some multiple words meanings.
4. ( ) Better than average vocabulary comprehension, good with category words and multiple word meanings.

INDIVIDUAL INSTRUCTIONS

1. ( ) Cannot follow directions, confused even if gestures are used.
2. ( ) Follows simple instructions but often needs special help and sometimes gestures.
3. ( ) Usually remembers and follows 3-stage directions.
4. ( ) Excentionally skillful in retaining and following complex directions and is one of the first in class to do so.

GROUP DISCUSSIONS

1. ( ) Avoids joining group, disrupts or is inattentive when forced to join.
2. ( ) Sits in groups but does not share related ideas.
3. ( ) Comprehends well, shares relevant ideas.
4. ( ) Enjoys group, shows superior understanding.

MEMORY

1. ( ) Very poor memory, highly forgetful.
2. ( ) Recalls frequently repeated ideas and events primarily.
3. ( ) Remembers information from various sources, good new and delayed memory.
4. ( ) Brings good associations from past experience to present experience.

STORY LISTENING

1. ( ) Never comes to listen, avoids story group.
2. ( ) Rarely listens or listens for only a very short period of time.
3. ( ) Interested in story, recalls many of the events.
4. ( ) Attentive to long stories, actively questions events and their outcome, retains sequence of events.

RHYTHM

1. ( ) Claps or taps randomly, unable to follow rhythm.
2. ( ) Needs individual instruction to learn simple rhythms.
3. ( ) Follows rhythms easily and can change rhythm.
4. ( ) Can engage in whole body movements in response to marches or other marked rhythm.

ORIENTATION:

RELATIONSHIPS (size, shape, distance)

1. ( ) Generally poor, tries to squeeze into small areas or put round peg into square hole.
2. ( ) Occasional errors in size judgement occur, but he learns from experience.
3. ( ) Knows shaps and matches size, shape, via experience, etc., to verify knowledge.
4. ( ) Makes accurate judgments visually without the need to check via experience, (e.g. awareness of distance capabilities as in placing self for throwing a ball or bean bag; or choosing an appropriate sized object for climbing, etc.).

ENVIRONMENT

1. ( ) Seems in a daze, confused outside of small classroom or in a large but familiar area.
2. ( ) Very slow in finding his way around what should be familiar surrounds.
3. ( ) Readily finds his way after a few visits to new place.
4. ( ) Likes to explore new surrounds, good memory for previous locations.

ORGANIZATION

1. ( ) Very disorganized.
2. ( ) Begins task, but loses his things or forgets what he was doing.
3. ( ) Works carefully with some assistance; keeps goal in mind.
4. ( ) Plans and finishes work frequently puts away materials.

OCCUPATION

1. ( ) Activities must always be initiated by others (teacher, peers).
2. ( ) Has difficulty finding something to do for himself and continuing without adult help.
3. ( ) Sometimes organizes or suggests activities for himself.
4. ( ) Usually finds acceptable activities for self and other.

ADAPTABILITY

1. ( ) Unable to control himself when facing new situations; "goes to pieces".
2. ( ) Frequently disturbed or confused by changes in routine.
3. ( ) Able to tolerate changes in routine.
4. ( ) Enjoys new and unexpected experiences.

SOCIAL RELATIONS

INDIVIDUAL APPROACH TO GROUP

1. ( ) Child plays only by himself
2. ( ) Child plays with an adult
3. ( ) Child tolerates another child as long as adult is present.
4. ( ) Child participates in parallel play, with beginning attempts at cooperative play.
5. ( ) Child plays with other children in cooperative play.

GROUP APPROACH TO INDIVIDUAL

1. ( ) Child is avoided by others.
2. ( ) Child is tolerated by others.
3. ( ) Child is sought out, primarily for reasons other than friendship, (i.e. fear of his aggression).
4. ( ) Child is sought out, primarily because he is liked.

COOPERATION

1. ( ) Very disruptive, unable to control own behavior.
2. ( ) Can be part of group with constant adult assistance.
3. ( ) Can be part of group with occasional adult assistance.
4. ( ) Can be part of group without adult assistance.

EGOCENTRICITY

1. ( ) Always rude, disregards feelings of others
2. ( ) Frequently rude, will disregard feelings of others.
3. ( ) Considerate most of the time, but occasionally shows inappropriate behavior.
4. ( ) Always considerate.